Dec. 7, 1954 C. L. GILBERT 2,696,341

BOTTLE CARRIER

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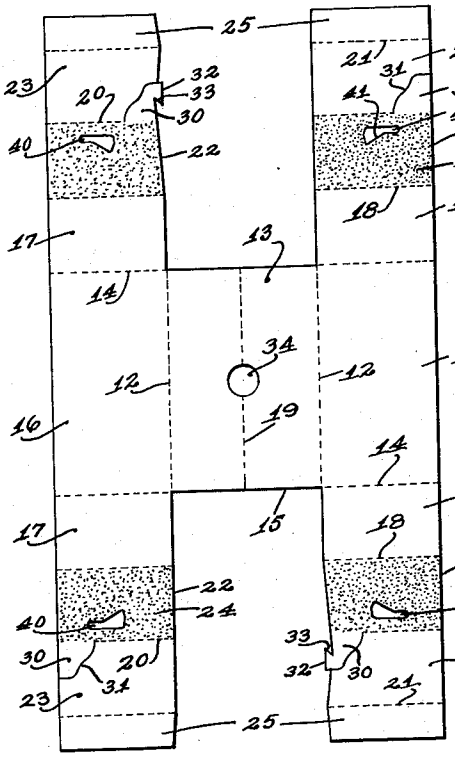


Fig. 2.

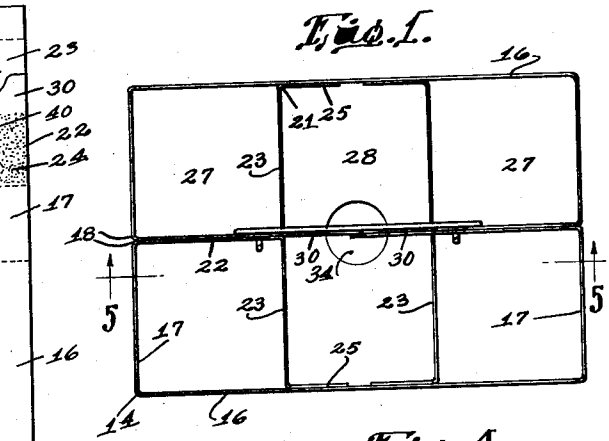


Fig. 1.

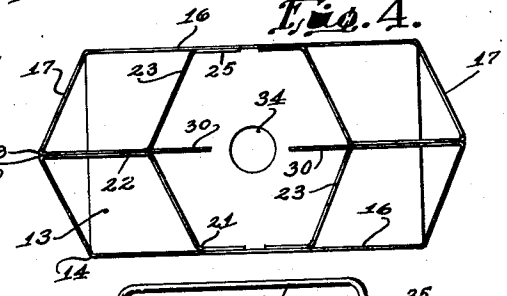


Fig. 4.

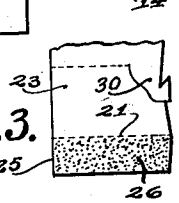


Fig. 3.

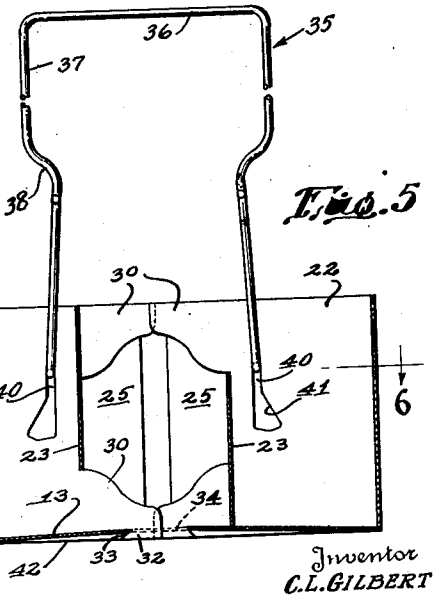


Fig. 5.

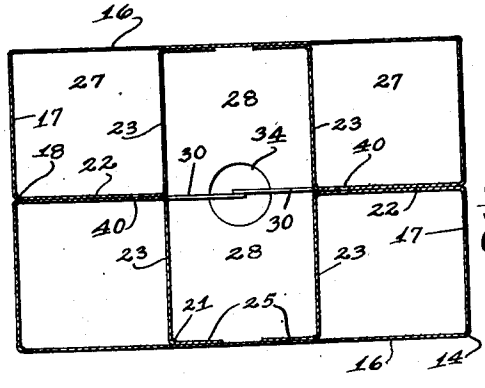


Fig. 6.

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BOTTLE CARRIER

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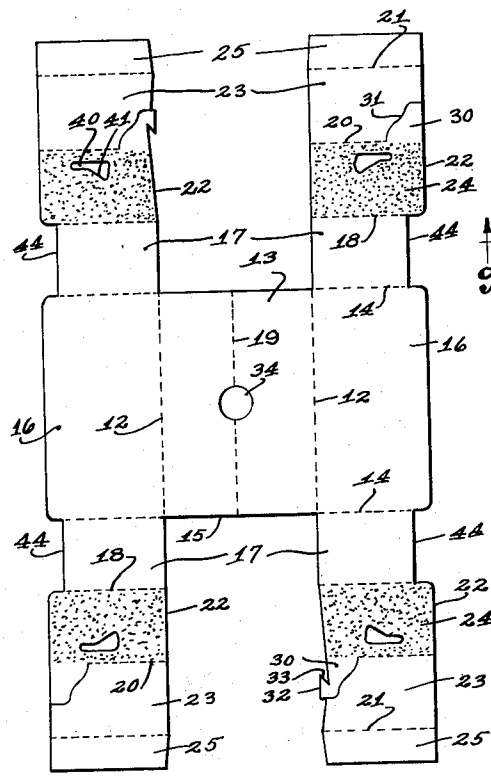


Fig. 7.

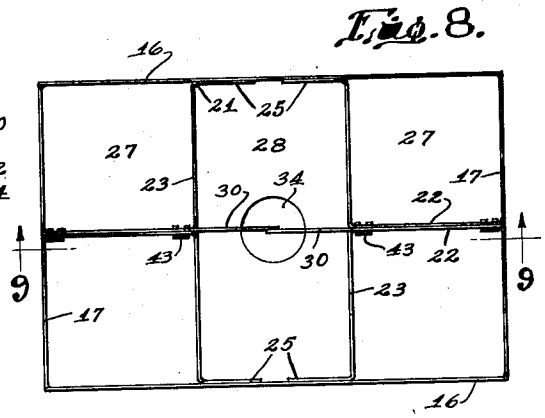


Fig. 8.

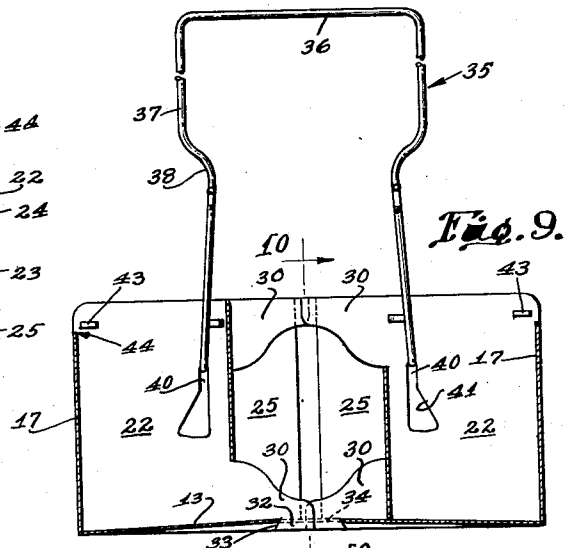


Fig. 9.

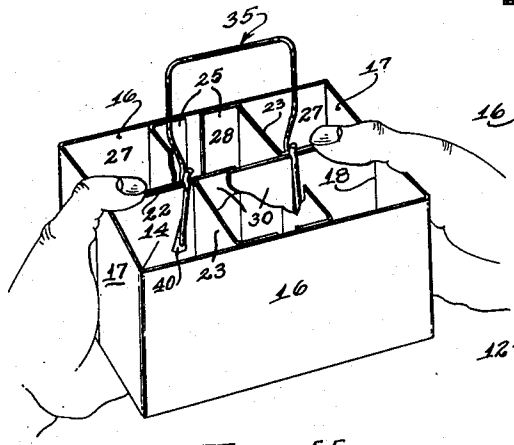


Fig. 11.

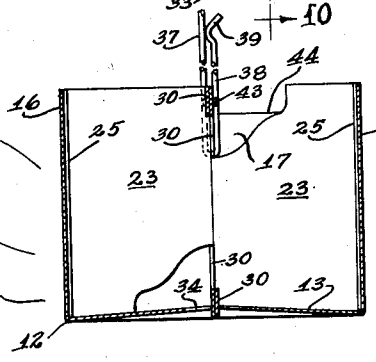


Fig. 10.

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BOTTLE CARRIER

Clyde L. Gilbert, Elkhart, Ind., assignor, by mesne assignments, to Robert Gair Company, Inc., New York, N. Y., a corporation of Delaware

Application August 25, 1949, Serial No. 112,192

2 Claims. (Cl. 229—28)

My invention relates to carriers for bottles or other articles, of the type consisting of foldable sheet material and formed with partition walls providing individual cells or compartments for the articles.

The carrier is collapsible for the purpose of storing and shipping and comprises a novel construction and means for automatically holding and locking it in its expanded or set-up form.

The carrier is formed from a single-piece blank of sheet material provided with fold lines at which the blank is flexed or folded for shaping the carrier and includes integral strips or strip extensions which form inner cell walls, said strips being provided with locking tabs or hooks arranged to engage an opening in the floor of the carrier and thereby lock the carrier in its set-up form.

My invention further provides a novel form of handle or bail made of resilient wire or the like, and removably attached to the median partition wall of the carrier in a manner to apply a tension to the locking tabs and thereby securely hold the latter in locking position.

Other novel features of the invention will appear more fully from the following detailed description of the preferred constructions embodying the invention.

Referring to the accompanying drawings:

Fig. 1 is a top plan view of one form of the carrier;

Fig. 2 is a plan view of a blank from which the carrier is formed, showing the side of the blank which forms the bottom and outer side and end surfaces of the carrier;

Fig. 3 is a fragmentary view of the opposite side of a portion of the blank, showing particularly the glue patch thereon;

Fig. 4 is a plan view of the carrier partially expanded;

Fig. 5 is a sectional elevation at the line **5—5** on Fig. 1;

Fig. 6 is a sectional plan view at the line **6—6** on Fig. 5;

Fig. 7 is a view of a modified form of blank particularly adapted to permit the use of staples for securing the carrier in its completed form;

Fig. 8 is a plan view of a carrier formed from the blank shown in Fig. 7;

Fig. 9 is a sectional elevation at the line **9—9** on Fig. 8;

Fig. 10 is a cross sectional elevation at the line **10—10** on Fig. 9; and

Fig. 11 is a perspective view of the carrier and indicates a method of holding it while being collapsed or while being set up to the expanded form.

Referring to Fig. 2, the blank consists of foldable sheet material such as paperboard or the like, and is provided with fold lines, indicated on the drawing by broken lines, at which the blank is flexed or folded for shaping the carrier. The fold lines may consist of scored, perforated or other lines at which the blank is weakened or made flexible for folding. The fold lines include parallel lines **12** defining the side edges of a bottom panel **13** and fold lines **14** perpendicular to the lines **12** and extending in line with the end edges **15** of the bottom panel **13**. The lines **14** define the ends of side panels **16** and form, in the folded carton, the vertical corner edges of the carrier.

The blank includes strips extending from the ends of the side panels to provide end panels and cell walls as presently described. The side panels **16** are folded upwardly along the fold lines **12**, and end panels **17** are folded inwardly along the lines **14** from the up-turned

side panels **16**. The end panels **17** are substantially half the width of the bottom panel **13** so that their inner vertical edges formed by fold lines **18** meet or substantially meet in the vertical plane of a median fold line **19** extending lengthwise of the bottom panel **13**. Fold lines **20** and **21**, parallel with the lines **18**, are spaced to provide cell-forming sections or panels **22** and **23**. The sections **22** fold inwardly from the upright end panels **17** to form the median partition wall which lies in the vertical plane of the median fold line **19**. The sections **22** are provided with a coating **24** of glue or other adhesive (shown by stippling) by which the contacting faces of the juxtaposed sections **22** are adhered together, forming a two-ply cell wall.

The sections **23** are turned outwardly from the panels or sections **22** at right angles thereto, and form inner cross partition walls of the cells. End strips **25** between the fold lines **21** and free ends of the blank, are turned outwardly at the fold lines **21**, to extend toward the centers of the side panels **16** and lie against the inner faces of said side panels to which they are adhered by adhesive material **26** (Fig. 3) covering the outer faces of said strips **25**.

The carrier when set up, provides six individual cells for the articles including the end cells **27** and the inner or middle cells **28**. The median partition wall between the cells **28** comprises extension straps **30** which in the blank are separated from the panel sections **23**, by diagonal slits **31** (Fig. 2). The fold lines **20** terminate at the slits **31** so that the straps or extensions **30** remain in the same plane with the median panel sections **22** when the carrier is set up. As shown in Fig. 6, the free ends of the straps **30** overlap so that a partition wall formed thereby, extends completely across the cells **28**.

The diagonally opposite straps **30** which in the set-up carrier form the lower pair of straps, are formed with locking members in the form of lugs **32**, each shaped to provide a hook **33**. When the carrier is set up, the lugs **32** project downwardly through an opening **34**, preferably circular, and the hooks **33** interlock with the walls of said opening thereby locking the carrier in its set-up form.

The carrier is collapsible to a flat folded form, convenient for packing, storing and shipping. When the carrier is collapsed the two halves of the bottom panel **13** are folded together and extend outwardly or downwardly from the side panels **16** which at the same time are brought together. The end panel sections **17** are doubled together as the carrier is collapsed, to extend outwardly from and in the same plane with the collapsed side panels. The transverse partition panels **23** also fold outwardly, swinging in parallel with the end panels. The carrier is quickly expanded from its folded to a set-up form by applying inward pressure to the ends of the carrier and at the same time applying upward pressure to the bottom panel. The locking lugs **32** are automatically hooked in place by the setting up operation.

A bail **35** provides a handle for the carrier. The bail is preferably formed of a resilient rod or wire bent to the shape shown. It includes a horizontal handle portion **36** and depending arms **37**, the latter having shoulder portions **38** by which the upper part of the bail is widened to form a handle of convenient length. The lower portions of the arms **37** are doubled as shown in Fig. 10, with the end sections **38** extending upwardly and terminating in outwardly flared end portions **39**. The cell walls **22** are provided with slots **40**, the lower portions of which are widened by downwardly flaring portions **41** of the side walls of the slots.

The handle is attached to the carrier by projecting the lower doubled portions of the arms **37** downwardly through the slots **41** and then drawing the handle upward into place, the doubled arms being guided into position to straddle the partition wall by the flared ends **39**. The lower portions of the arms **37**, when free, are spaced apart a greater distance than that between the upper ends of the slots **40**, so that they are placed under a spring tension when the bail is attached to the carrier. A horizontal pull is thus applied to the locking lugs **32** for holding them securely in locked position. The inclined walls **41** of the slots **40** serve to cam the arms **37**

inwardly as they are drawn up to position, thereby placing them under tension.

As shown in Fig. 2, the inner edges of the median partition panel sections **22** and strap extensions **30**, formed with the locking lugs **32**, are slightly inclined so that when the carrier is set up, the locking lugs **32** draw the bottom panel of the carrier upwardly a short distance above the bottom level of the carrier. The construction is such that the locking lugs **32** do not extend below the said bottom level **42** of the carrier.

Figs. 7 and 9 illustrate a somewhat modified form of carrier in which staples **43** are used to supplement the adhesive material **24** where extra strength or rigidity is required. In this form, the outer edges **44** of the end panel sections **17** are set in a short distance relative to the outer edges of the adjoining panel sections so that in the set-up carrier, the abutting panels which form the median partition wall, extend upwardly above the end panels **17** as shown in Fig. 9. This construction permits the staples **43** to be easily applied with a conventional stapling machine.

Various modifications of the constructions herein shown and specifically described, may be resorted to within the spirit and scope of my invention as defined in the appended claims.

I claim:

1. A bottle carrier consisting of sheet material formed with fold lines at which the material is folded for shaping the carrier from a blank, said carrier being collapsible from an expanded to a folded form, the carrier comprising a collapsible bottom panel formed with a fold line, side panels extending upwardly from the bottom panel, end panels extending inwardly from the ends of the side panels at right angles thereto, the end panels at each end of the carrier being foldable together permitting the side panels to be brought together with the end panels extended outwardly therefrom, and means for holding the carrier in set-up or expanded form including straps integral with the end panels and extending inwardly therefrom parallel with the side panels and having their inner ends overlapped, said straps having portions cut away from their lower edges, forming locking hooks entirely within the original outline of the lower

edges of the straps, and adjacent the overlapped ends thereof, the bottom panel being formed with a central opening to receive said hooks and providing locking engagement between the bottom panel and said straps at points located above the plane of the bottom panel.

2. A bottle carrier formed from a single-piece blank of foldable sheet material, said carrier comprising median and longtitudinally spaced pairs of transverse partition panels dividing the carrier into a plurality of individual cells, a bottom panel, side panels extending upwardly therefrom, end panels extending inwardly toward each other from the side panels, the median partition panels extending from the inner ends of the end panels parallel with the side panels, the transverse partition panels extending outwardly from the median panels to the side panels, and means for attaching the transverse partition panels to the side panels, a median panel extending from each end having an individual extension projecting inwardly beyond the respective pair of transverse partition panels to form partition straps lying in the plane of the median panels, said partition straps comprising portions cut out of certain longitudinally spaced transverse partition panels and from within the edges thereof, said cut out portions being of a length substantially less than the length of the transverse partition panels, the free ends of said individual extensions coming into substantially abutting relationship at a point between said transverse partition panels when the carrier is set up for use.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
811,676	Vernon	Feb. 6, 1906
1,072,185	Smiley	Sept. 2, 1913
2,163,290	Powell	June 20, 1939
2,345,746	Goodyear	Apr. 4, 1944
2,418,350	Holy	Apr. 1, 1947
2,508,943	Hall et al.	May 23, 1950
2,525,686	Kowal	Oct. 10, 1950
2,532,446	Hall	Dec. 5, 1950
2,652,968	Bolding	Sept. 22, 1953
2,658,659	Hall	Nov. 10, 1953